

Claims

1. Method for producing a piston (1) for an internal combustion engine,

- having an essentially cylindrical base body (4) made of aluminum, whose one face forms a piston crown (5),
- having pin bosses (8) with pin bores (3) disposed on the underside of the base body (4), facing away from the piston crown (5), and
- having skirt elements (9) that connect the pin bosses (8) with one another,

characterized in that

- the base body (4) is produced using the forging method, whereby a recess (22) is formed into the radially outer region of the piston crown (5),
- that the free shanks (13, 14) of an essentially toroid-shaped cooling channel (15), which is C-shaped in cross-section and radially open to the outside, and produced from sheet steel, are welded onto a cylindrical surface (12) of a ring insert (10) made of NiResist, which surface lies radially on the inside,
- that the ring insert (10) provided with the cooling channel (15) is cast into a ring element (6) made of aluminum, using the composite casting method, which

ring element is given such a shape, in this connection, that it fits into the recess (22),

- that the ring element (6) is fitted into the recess (22) and welded to the base body (4), and
- that the piston (1) is given its final shape by means of a cutting production method.

2. Method for producing a piston (1) for an internal combustion engine, according to claim 1, **characterized in that** a recess (22) that is rectangular in cross-section is formed into the radially outer edge region of the piston crown (5), and that the ring element (6) is given a shape that is rectangular in cross-section, so that it fits into the recess (22).
3. Method for producing a piston (1) for an internal combustion engine, according to claim 1, **characterized in that** the ring element (6) is given such a shape that its surface that lies radially on the inside forms a weld seam (21), with the base body (4), that narrows conically towards the piston crown (5).
4. Method for producing a piston (1) for an internal combustion engine, according to claim 1 or 3, **characterized in that** the ring element (6) is given such a shape that its surface that

lies axially in the direction of the pin bore (3) forms a weld seam (20), with the base body (4), that has an orientation that deviates from the radial axis direction.